

WHAT IS CLAIMED IS:

1. A method for controlling a drive unit of a vehicle, comprising:

a) setting a free-wheel mode, in which the vehicle operates with a clutch disengaged, as a function of one of a driving situation and an operating state of the drive unit; and

b) setting an output variable of the drive unit to a constant value during a transition between an engaged-clutch travel mode and the free-wheel mode.

2. The method as recited in claim 1, wherein the output variable of the drive unit is set in the setting step by coordinating a clutch intervention and a vehicle brake intervention.

3. The method as recited in claim 1, wherein the output variable is set in the setting step by a regulator.

4. The method as recited in claim 1, wherein the output variable is set in the setting step in accordance with a characteristic map as a function of at least one of an engine speed, an engine drag torque, a vehicle mass, a roadway gradient, an instantaneous gear ratio, an engaged gear and an engaged drive position.

5. The method as recited in claim 1, further comprising canceling a braking action of an activated vehicle brake as a function of one of the driving situation and the operating state of the drive unit after the transition from the engaged-clutch travel mode to the free-wheel mode.

6. The method as recited in claim 1, further comprising increasing a braking action of a vehicle brake as a function of one of the driving situation and the operating state of the

drive unit prior to a transition from the free-wheel mode to the engaged-clutch travel mode.

7. The method as recited in claim 1, further comprising shutting down an internal combustion engine of the vehicle in the free-wheel mode.

8. The method as recited in claim 1, further comprising restarting a combustion engine drive by a vehicle engine prior to a transition from the free-wheel mode to the engaged-clutch travel mode by at least one of sequentially employing a fuel injection system, using a charge controller and supported by an electric motor.

9. The method as recited in claim 1, further comprising regulating engine speed to a predefined speed difference from a speed of a power train of the vehicle prior to reconnecting a combustion engine of the vehicle to the power train.

10. The method as recited in claim 1, wherein the output variable of the drive unit includes at least one of torque and vehicle speed.

11. A device for controlling the drive unit of a vehicle that is operated, as a function of one of a driving situation and an operating state of the drive unit, in a free-wheel mode in which the vehicle operates with the clutch disengaged, comprising

an arrangement configured to set an output variable of the drive unit to a constant value during a transition between an engaged-clutch travel mode and the free-wheel mode.

12. The device as recited in claim 11, wherein the output variable of the drive unit includes at least one of a torque and a vehicle speed.

13. The device as recited in claim 11, wherein the arrangement is configured to set the output variable of the drive unit in accordance with coordination of a clutch intervention and a vehicle brake intervention.

14. The device as recited in claim 11, wherein the arrangement includes a regulator.

15. The device as recited in claim 11, wherein the arrangement is configured to set the output variable of the drive unit in accordance with a characteristic map as a function of at least one of an engine speed, an engine drag torque, a vehicle mass, a roadway gradient, an instantaneous gear ratio, an engaged gear and an engaged drive position.

16. The device as recited in claim 11, further comprising an arrangement configured to cancel a brake action of an activated vehicle brake as a function of one of the driving situation and the operating state of the drive unit after the transition from the engaged-clutch travel mode to the free-wheel mode.

17. The device as recited in claim 11, further comprising an arrangement configured to increase a brake action of a vehicle brake as a function of one of the driving situation and the operating state of the drive unit prior to a transition from the free-wheel mode to the engaged-clutch travel mode.

18. The device as recited in claim 11, further comprising an arrangement configured to shut down an internal combustion engine of the vehicle in the free-wheel mode.

19. The device as recited in claim 11, further comprising an arrangement configured to restart a combustion engine drive by a vehicle engine prior to a transition from the free-wheel mode to the engaged-clutch travel mode by at

least one of sequentially employing a fuel injection system and using a charge controller.

20. The device as recited in claim 11, further comprising an electric motor configured to restart a combustion engine drive by a vehicle engine prior to a transition from the free-wheel mode to the engaged-clutch travel mode.

21. The device as recited in claim 11, further comprising an arrangement configured to regulate engine speed to a predefined speed difference from a speed of a power train of the vehicle prior to reconnection of a combustion engine of the vehicle to the power train.

22. A device for controlling the drive unit of a vehicle, comprising:

means for operating the drive unit of the vehicle as a function of one of a driving situation and an operating state of the drive unit, in a free-wheel mode in which the vehicle operates with the clutch disengaged; and

means for setting an output variable of the drive unit to a constant value during a transition between an engaged-clutch travel mode and the free-wheel mode.